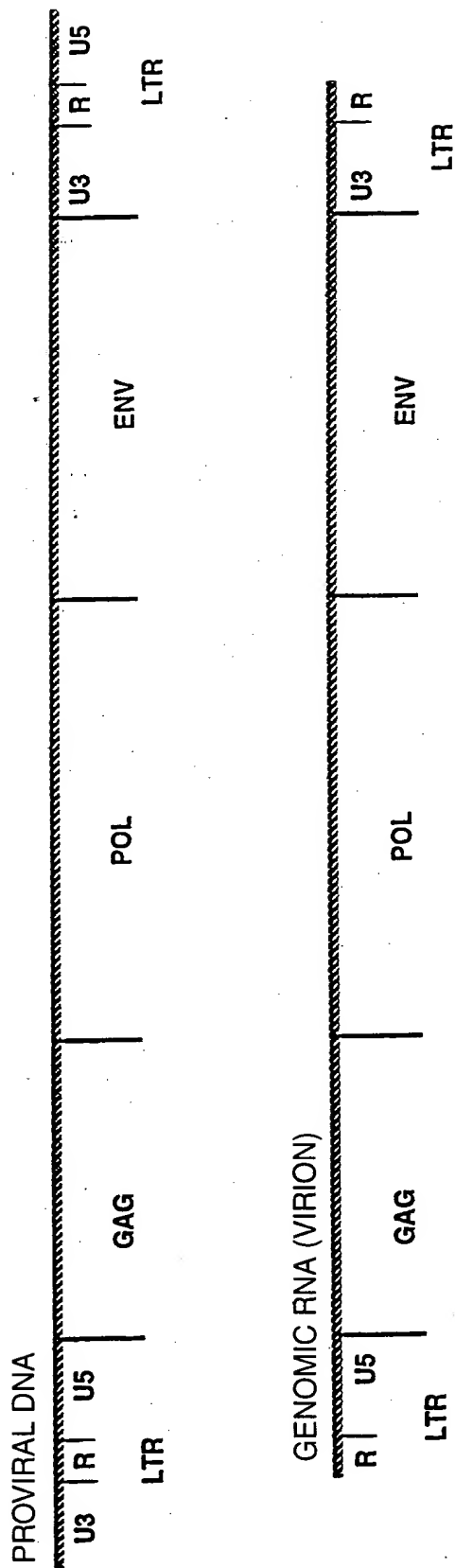


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Fig. 1



2/33
Fig. 2

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GCTTATAGAA	GGACCCCTAG	TATGGGGTAA	TCCCCCTCTGG	GAAACCAAGC	50
A Y R R	T P S M G .	S P L G	N Q A		
L I E	G P L V	W G N	P L W	E T K P	
L .	K D P .	Y G V I	P S G	K P S	
CCCAGTACTC	AGCAGGAAAA	ATAGAATAGG	AAACCTCACA	AGGACATACT	100
P V L	S R K N	R I G	N L T	R T Y F	
Q Y S	A G K I E .	E T S Q	G H T		
P S T Q	Q E K .	N R	K P H K	D I L	
TTCCTCCCCCT	CCAGATGGCT	AGCCACTGAG	GAAGGAAAAA	TACTTTCAACC	150
P P L	Q M A S H .	G R K N	T F T		
F L P S	R W L A T E	E G K I	L S P		
S S P	P D G .	P L R	K E K	Y F H L	
TGCAGCTAAC	CAACAGAAAT	TACTTAAAAC	CCTTCACCAA	ACCTTCCACT	200
C S .	P T E I T .	N P S P N	L P L		
A A N	Q Q K L	L K T	L H Q	T F H L	
Q L T	N R N	Y L K P	F T K	P S T	
TAGGCATIGA	TAGCACCCAT	CAGATGGCCA	AATTATTATT	TACTGGACCA	250
R H .	. H P S	D G Q	I I I	Y W T R	
G I D	S T H	Q M A K	L L F	T G P	
. A L I	A P I	R W P	N Y Y L	L D Q	
GGCCTTTTCA	AAACTATCAA	GAAGATAGTC	AGGGGCTGTG	AAGTGTGCCA	300
P F Q	N Y Q	E D S Q	G L .	S V P	
G L F K	T I K	K I V	R G C E	V C Q	
A F S	K L S R	R .	S G A V	K C A K	
AAGAAATAAT					310
K K .					
R N N					
E I					

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Fig. 3A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CCCTGTATCT	TTAACCTCT	TGTTAAGTT	GTCTCTTCCA	GAATCAAAC	50
P C I F	N L L	V K F	V S S R	I K T	
P V S	L T S L	L S L	S L P	E S K L	
L Y L	. P P C	. V C	L F Q	N Q N	
TGTAAACTA	CAAATTGTT	TTCAAATGA	GCACCAGATG	GAGTCCATGA	100
V K L	Q I V L	Q M E	H Q M	E S M T	
. N Y	K L F	F K W S	T R W	S P .	
C K T T	N C S	S N G	A P D G	V H D	
CTAAGATCCA	CCGTGGACCC	CTGGACCGGC	CTGCTAGCCC	ATGCTCCGAT	150
K I H	R G P	L D R P	A S P	C S D	
L R S T	V D P	W T G	L L A H	A P M	
. D P	P W T P	G P A	C . P	M L R C	
GTTAATGACA	TTGAAGGCAC	CCCTCCCGAG	GAAATCTCAA	CTGCACAACC	200
V N D I	E G T	P P E	E I S T	A Q P	
L M T	L K A P	L P R	K S Q	L H N P	
. . H	. R H	P S R G	N L N	C T T	
CCTACTATGC	CCCAATTGAG	CGGGAAGCAG	TTAGAGCGGT	CATCAGCCAA	250
L L C	P N S A	G S S	. S G	H Q P T	
Y Y A	P I Q	R E A V	R A V	I S Q	
P T M P	Q F S	G K Q	L E R S	S A N	
CCTCCCCAAC	AGCACTTGGG	TTTTCCTGTT	GAGAGGGGGG	ACTGAGAGAC	300
S P T	A L G	F S C	. E G G	L R D	
P P Q Q	H L G	F P V	E R G D	. E T	
L P N	S T W V	F L L	R G G	T E R Q	
AGGACTAGCT	GGATTTCCTA	GGCCAACGAA	GAATCCCTAA	GCCTAGCTGG	350
R T S W	I S .	A N E	E S L S	L A G	
G L A	G F P R	P T K	N P .	A . L G	
D . L	D F L	G Q R R	I P K	P S W	

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Fig. 3B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GAAGGTGACT	GCATCCACCT	CTAAACATGG	GGCTTGCAAC	TTAGCTCACA	400
K V T	A S T S	K H G	A C N	L A H T	
R . L	H P P	L N M G	L A T	. L T	
E G D C	I H L	. T W	G L Q L	S S H	
CCCGACCAAT	CAGAGAGCTC	ACTAAAATGC	TAATTAGGCA	AAAATAGGAG	450
R P I	R E L	T K M L	I R Q	K . E	
P D Q S	E S S	L K C	. L G K	N R R	
P T N	Q R A H	. N A N	. A K I G G		
GTAAAGAAAT	AGCCAATCAT	CTATTGCGTG	AGAGCACAGC	GGGAGGGACA	500
V K K .	P I I	Y C L	R A Q R	E G Q	
. R N	S Q S S	I A .	E H S	G R D K	
K E I	A N H	L L P E	S T A	G G T	
AGGATCGGGA	TATAAATCCA	GGCATTGCGAG	COGGCAACGG	CAACCCCCCTT	550
G S G	Y K P R	H S S	R Q R	Q P P L	
D R D	I N P	G I R A	G N G	N P L	
R I G I	. T Q	A F E	P A T A	T P F	
TGGGTCCCCCT	CCCTTTGAT	GGGCGCTCTG	TTTTCACCTCT	ATTTCACCTCT	600
G P L	P L Y	G R S V	F T L	F H S	
W V P S	L C M	G A L	F S L Y	F T L	
G S P	P F V W	A L C	F H S	I S L Y	
ATTAAATCTT	GCAACTGAAA	AAAAAAAAAA	AAAAA		635
I K S C	N . K	K K K K	K		
L N L	A T E K	K K K K	K		
. I L	Q L K	K K K K	K		

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Fig. 4A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATGGCCCTCC	CTTATCATAC	TTTCTCTTT	ACTGTTCTCT	TACCCCTTT	50
M A L P	Y H T	F L F	T V L L	P P F	
W P S	L I I L	F S L	L F S	Y P L S	
G P P	L S Y	F S L Y	C S L	T P F	
CGCTCTCACT	GCACCCCTC	CATGCTGCTG	TACAACCAGT	AGCTCCCTT	100
A L T	A P P P	C C C	T T S	S S P Y	
L S L	H P L	H A A V	Q P V	A P L	
R S H C	T P S	M L L	Y N Q	L P L	
ACCAAGAGTT	TCTATGAAGA	ACGCGGCTTC	CTGGAAATAT	TGATGCCCCA	150
Q E F	L . R	T R L P	G N I	D A P	
T K S F	Y E E	R G F	L E I L	M P H	
P R V	S M K N	A A S	W K Y	C P I	
TCATATAGGA	GTTTATCTAA	GGGAAACTCC	ACCTTCACTG	CCCACACCCA	200
S Y R S	L S K	G N S	T F T A	H T H	
H I G	V Y L R	E T P	P S L	P T P I	
I . E	F I .	G K L H	L H C	P H P	
TATGCCCCGC	AACTGCTATA	ACTCTGCCAC	TCTTTGCATG	CATGCAAATA	250
M P R	N C Y N	S A T	L C M	H A N T	
C P A	T A I	T L P L	F A C	M Q I	
Y A P Q	L L .	L C H	S L H A	C K Y	
CTCATTATTG	GACAGGGAAA	ATGATTAAATC	CTAGTTGTCC	TGGAGGACTT	300
H Y W	T G K	M I N P	S C P	G G L	
L I I G	Q G K	L I	L V V L	E D L	
S L L	D R E N	D . S	L S	W R T W	
GGAGCCACTG	TCTGTTGGAC	TTACTTCACC	CATACCAGTA	TGTCTGATGG	350
G A T V	C W T	Y F T	H T S M	S D G	
E P L	S V G L	T S P	I P V	C L M G	
S H C	L L D	L L H P	Y Q Y	V . W	

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Fig. 4B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GGGTGGAATT	CAAGGTCAGG	CAAGAGAAAA	ACAAGTAAAG	GAAGCAATCT	400
G G I	Q G Q A	R E K	Q V K	E A I S	
V E F	K V R	Q E K N	K * R	K Q S	
G W N S	R S G	K R K	T S K G	S N L	
CCCAACTGAC	CCGGGGACAT	AGCACCCCTA	GCCCCTACAA	AGGACTAGTT	450
Q L T	R G H	S T P S	P Y K	G L V	
P N * P	G D I	A P L	A P T K	D * F	
P T D	P G T *	H P *	P L Q	R T S S	
CTCTCAAAC	TACATGAAAC	CCTCCGTACC	CATACTCGCC	TGGTGAGCCT	500
L S K L	H E T	L R T	H T R L	V S L	
S Q N	Y M K P	S V P	I L A	W * A Y	
L K T	T * N	P P Y P	Y S P	G E P	
ATTTAATACC	ACCCTCACTC	GGCTCCATGA	GGTCTCAGCC	CAAAACCCTA	550
F N T	T L T R	L H E	V S A	Q N P T	
L I P	P S L	G S M R	S Q P	K T L	
I * Y H	P H S	A P *	G L S P	K P Y	
CTAACTGTTG	GATGTGCCTC	CCCCTGCACT	TCAGGCCATA	CATTTCAATC	600
N C W	M C L	P L H F	R P Y	I S I	
L T V G	C A S	P C T	S G H T	F Q S	
* L L	D V P P	P A L	Q A I	H F N P	
CCTGTTCTTG	AACAATGGAA	CAACTTCAGC	ACAGAAATAA	ACACCACTTC	650
P V P E	Q W N	N F S	T E I N	T T S	
L E L	N N G T	T S A	Q K *	T P L P	
C S *	T M E	Q L Q H	R N K	H H F	
CGTTTTAGTA	GGACCTCTTG	TTTCCAATCT	GGAAATAACC	CATACCTCAA	700
V L V	G P L	V S N L	E I T	H T S N	
F * *	D L L	F P I W	K * P	I P Q	
R F S R	T S C	F Q S	G N N P	Y L K	

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Fig. 4C

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ACCTCACCTG	TGTAATAATT	AGCAATACTA	TAGACACAAC	CAGCTCCCAA	750
L T C	V K F	S N T I	D T T	S S Q	
T S P V	. N L	A I L	. T Q P	A P N	
P H L	C K I	. Q Y Y	R H N	Q L P M	
TGCATCAGGT	GGGTAAACACC	TCCACACAGA	ATAGTCTGCC	TACCCCTCAGG	800
C I R W	V T P	P T R	I V C L	P S G	
A S G	G . H L	P H E	. S A	Y P Q E	
H Q V	G N T	S H T N	S L P	T L R	
AATATTTTTT	GTCTGTGGTA	CCTCAGCCTA	TCATTGTTTG	AATGGCTCTT	850
I F F	V C G T	S A Y	H C L	N G S S	
Y F L	S V V	P Q P I	I V .	M A L	
N I F C	L W Y	L S L	S L F E	W L F	
CAGAATCTAT	GIGCTTCCTC	TCATTCTTAG	TGCCCCCTAT	GACCATCTAC	900
E S M	C F L	S F L V	P P M	T I Y	
Q N L C	A S S	H S .	C P L .	P S T	
R I Y	V L P L	I L S	A P Y	D H L H	
ACTGAACAAG	ATTATACAA	TCATGTGCTA	CCTAAGCCCC	ACAACAAAAG	950
T E Q D	L Y N	H V V	P K P H	N K R	
L N K	I Y T I	M S Y	L S P	T T K E	
. T R	F I Q	S C R T	. A P	Q Q K	
AGTACCCATT	CTTCCTTTTG	TTATCAGAGC	AGGAGTGCTA	GCCAGACTAG	1000
V P I	L P F V	I R A	G V L	G R L G	
Y P F	F L L	L S E Q	E C .	A D .	
S T H S	S F C	Y Q S	R S A R	Q T R	
GTACTGGCAT	TGGCAGTATC	ACAACCTCTA	CTCAGTTCTA	CTACAAACTA	1050
T G I	G S I	T T S T	Q F Y	Y K L	
V L A L	A V S	Q P L	L S S T	T N Y	
Y W H	W Q Y H	N L Y	S V L	L Q T I	

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Fig. 4D

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TCTCAAGAAA	TAAATGGTGA	CATGGAACAG	GTCACTGACT	COCTGGTCAC	1100
S Q E I	N G D M E Q	V T D S	L V T		
L K K	M V T W N R	S L T P W	S P		
S R N K W	H G T G	H	L P G H		
CTTGCAAGAT	CAACTTAACT	COCTAGCAGC	AGTAGTCCTT	CAAAATCGAA	1150
L Q D Q L N S	L A A V V L	Q N R R			
C K I N L T P	Q Q	S F K I E			
L A R S T	L P S S	S S P S	K S K		
GAGCTTTAGA	CTTGCTAACC	GCCAAAAGAG	GGGGAAOCTG	TTTATTTTIA	1200
A L D L L T A K R G	G T C L F L				
E L T C P P K E	G E P V Y F				
S F R L A N R	Q K R G N L	F I F R			
GGAGAAGAAC	GCTGTTATTA	TGTTAATCAA	TCCAGAATTG	TCACTGAGAA	1250
G E E R C Y Y V N Q	S R I V T E K				
E K N A V I M L I N	P E L S L R K				
R R T L L L C	S I Q N C H	E			
AGTTAAAGAA	ATTGAGATC	GAATACAATG	TAGAGCAGAG	GAGCTTCAAA	1300
V K E I R D R I Q C	R A E E L Q N				
L K K F E I E Y N V	E Q R S F K				
S R N S R S N T M	S R G A S K				
ACACCGAACG	CTGGGGOCTC	CTCAGCCAAT	GGATGCCCTG	GGTTCTCCCC	1350
T E R W G L L S Q W	M P W V L P				
T P N A G A S S A N	G C P G F S P				
H R T L G P P Q P M	D A L G S P L				
TTCTTAGGAC	CTCTAGCAGC	TCTAATATTG	TTACTOCTCT	TTGGACCOCTG	1400
F L G P L A A L I L	L L L F G P C				
S D L Q L Y C Y S S	L D P V				
L R T S S S S N I V	T P L W T L				

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Fig. 4E

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TATCTTTAAC	CTCCTIGTTA	AGTTTGTCTC	TTCCAGAATT	GAAGCTGTAA	1450
I F N	L L V K	F V S	S R I	E A V K	
S L T	S L L	S L S L	P E L	K L	
Y L	P P C	V C L	F Q N	S C K	
AGCTACAGAT	GGTCTTACAA	ATGGAACCCC	A		1481
L Q M	V L Q	M E P			
S Y R W	S Y K	W N P			
A T D	G L T N	G T P			

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Fig. 5A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TCAAAATCGA	AGAGCTTTAG	ACTTGCTAAC	CGCCAAAAGA	GGGGGAACCT	50
S K S K	S F R	L A N	R Q K R	G N L	
Q N R	R A L D	L L T	A K R	G G T C	
K I E	E L .	T C .	P P K E	G E P	
GGTTATTTTT	AGGGGAAGAA	TGCTGTTAGT	ATGTTAATCA	ATCTGGAATC	100
F I F	R G R M	L L V	C . S	I W N H	
L F L	G E E	C C .	Y V N Q	S G I	
V Y F .	G K N	A V S	M L I N	L E S	
ATTACTGAGA	AAGTTAAAGA	AATTTCAGAT	CGAATATAAT	GTAGAGCAGA	150
Y . E	S . R	N L R S	N I M .	S R	
I T E K	V K E	I . D	R I . C	R A E	
L L R	K L K K	F E I	E Y N	V E Q R	
GGACCTTCAA	AACACTGCAC	CCTGGGGGCT	CCTCAGCCAA	TGGATGCCCT	200
G P S K	H C T	L G P	P Q P M	D A L	
D L Q	N T A P	W G L	L S Q	W M P W	
T F K	T L H	P G A S	S A N	G C P	
GGACTCTCCC	CTTCTTAGGA	CCTCTAGCAG	CTATAATATT	TTTACTCCTC	250
D S P	L L R T	S S S	Y N I	F T P L	
T L P	F L G	P L A A	I I F	L L L	
G L S P	S . D	L . Q	L . Y F	Y S S	
TTTGGACCCCT	GTATCTTCAA	CTTCCTTGTT	AAGTTTGICT	CTTCCAGAAT	300
W T L	Y L Q	L P C .	V C L	F Q N	
F G P C	I F N	F L V	K F V S	S R I	
L D P	V S S T	S L L	S L S	L P E L	
TGAAGCTGTA	AAGCTACAAA	TAGTTCTTCA	AATGGAACCC	CAGATGCAGT	350
. S C K	A T N	S S S	N G T P	D A V	
E A V	K L Q I	V L Q	M E P	Q M Q S	
K L .	S Y K .	F F K	W N P	R C S	

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Fig. 5B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CCATGACTAA	AATCTACCGT	GGACCCCTGG	ACCGGCCTGC	TAGACTATGC	400
H D .	N L P W	T P G	P A C	. T M L	
M T K	I Y R	G P L D	R P A	R L C	
P . L K	S T V	D P W	T G L L	D Y A	
TCTGATGTIA	ATGACATTGA	AGTCACCCCT	CCCGAGGAAA	TCTCAACTGC	450
. C .	. H .	S H P S	R G N	L N C	
S D V N	D I E	V T P	P E E I	S T A	
L M L	M T L K	S P L	P R K	S Q L H	
ACAACCCCTA	CTACACTCCA	ATTGAGTAGG	AAGCAGTTAG	AGCAGTTGTC	500
T T P T	T L Q	F S R	K Q L E	Q L S	
Q P L	L H S N	S V G	S S .	S S C Q	
N P Y	Y T P	I Q .	E A V R	A V V	
AGCCAACTC	CCCAACAGTA	CTTGGGTTTT	CCTGTTGAGA	GGGTGGACTG	550
A N L	P N S T	W V F	L L R	G W T E	
P T S	P T V	L G F S	C . E	G G L	
S Q P P	Q Q Y	L G F	P V E R	V D .	
AGAGACAGGA	CTAGCTGGAT	TTCCTAGGCT	GAATAAGAAT	CCCAAGCCT	600
R Q D	. L D	F L G .	L R I	P K P	
R D R T	S W I	S . A	D . E S	X S L	
E T G	L A G F	P R L	T K N	P X A X	
ANCTGGGAAG	GTGACCGCAT	CCATCTTTAA	ACATGGGGCT	TGCAACTTAG	650
X W E G	D R I	H L .	T W G L	Q L S	
X G K	V T A S	I F K	H G A	C N L A	
L G R	. P H	P S L N	M G L	A T .	
CTCACACCCG	ACCAATCAGA	GAGCTCACTA	AAATGCTAAT	CAGGCAAAAA	700
S H P	T N Q R	A H .	N A N	Q A K T	
H T R	P I R	E L T K	M L I	R Q K	
L T P D	Q S E	S S L	K C .	S G K N	

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Fig. 5C

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CAGGAGGTAA	AGCAATAGCC	AATCATCTAT	TGCTGAGAG	CACAGCGGGA	750
G G K	A I A	N H L L	P E S	T A G	
Q E V K	Q . P	I I Y	C L R A	Q R E	
R R .	S N S Q	S S I	A . E	H S G K	
AGGACAAGGA	TTGGGATATA	AACTCAGGCA	TTCAAGCCAG	CAACAGCAAC	800
R T R I	G I .	T Q A	F K P A	T A T	
G Q G	L G Y K	L R H	S S Q	Q Q Q P	
D K D	W D I	N S G I	Q A S	N S N	
CCCCTTTGGG	TCCCCTCCCA	TTGTATGGGA	GCTCTGTTTT	CACTCTATTT	850
P F G	S P P I	V W E	L C F	H S I S	
P L G	P L P	L Y G S	S V F	T L F	
P L W V	P S H	C M G	A L F S	L Y F	
CACTCTATTA	AATCATGCAA	CTGCACCTCT	CTGGTCCGIG	TTTTTATGG	900
L Y .	I M Q	L H S S	G P C	F L W	
H S I K	S C N	C T L	L V R V	F Y G	
T L L	N H A T	A L F	W S V	F F M A	
CTCAAGCTGA	GCTTTTGTTC	GCCATCCACC	ACTGCTGTTT	GCCACCGICA	950
L K L S	F C S	P S T	T A V C	H R H	
S S .	A F V R	H P P	L L F	A T V T	
Q A E	L L F	A I H H	C C L	P P S	
CAGACCGCT	GCTGACTTCC	ATCCCTTTGG	ATCCAGCAGA	GIGTCCACTG	1000
R P A	A D F H	P F G	S S R	V S T V	
D P L	L T S	I P L D	P A E	C P L	
Q T R C	. L P	S L W	I Q Q S	V H C	
TGCTCTGAT	CCAGCGAGGT	ACCCATTGCC	ACTCCCGATC	AGGCTAAAGG	1050
L L I	Q R G	T H C H	S R S	G . R	
C S .	S S E V	P I A	T P D Q	A K G	
A P D	P A R Y	P L P	L P I	R L K A	

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Fig. 5D

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CTTGCCATTG	TTCCTGCGATG	GCTAAGTGCC	TGGGTTTGIC	CTAATAGAAC	1100
L A I V	P A W	L S A	W V C P	N R T	
L P L	F L H G	. V P	G F V	L I E L	
C H C	S C M	A K C L	G L S	. . N	
TGAACACTGG	TCACTGGGTT	CCATGGTTCT	CTTCCATGAC	CCACGGCTTC	1150
E H W	S L G S	M V L	F H D	P R L L	
N T G	H W V	P W F S	S M T	H G F	
. T L V	T G F	H G S	L P .	P T A S	
TAATAGAGCT	ATAACACTCA	CCGCATGGCC	CAAGATTCCA	TTCCTTGGTA	1200
I E L	. H S	P H G P	R F H	S L V	
. . S Y	N T H	R M A	Q D S I	P W Y	
N R A	I T L T	A W P	K I P	F L G I	
TCTGTGAGGC	CAAGAACCCC	AGGTCAGAGA	ANGTGAGGCT	TGCCACCATT	1250
S V R P	R T P	G Q R	X . G L	P P F	
L . G	Q E P Q	V R E	X E A	C H H L	
C E A	K N P	R S E X	V R L	A T I	
TGGGAAGTGG	CCCACTGCCA	TTTGTGGTAGC	GCCCCACCAC	CATCTTGGGA	1300
G K W	P T A I	L V A	A H H	H L G S	
G S G	P L P	F W .	R P T T	I L G	
W E V A	H C H	F G S	G P P P	S W E	
GCTGTGGGAG	CAAGGATCCC	CCAGTAACA			1329
C G S	K D P	P V T			
A V G A	R I P	Q .			
L W E	Q G S	P S N			

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Fig. 6A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CCTAGAACGT	ATTCTGGAGA	ATTGGGACCA	ATGIGACACT	CAGACGCTAA	50
P R T Y	S G E L	G P M .	H S .	D A K	
L E R	I L E N	W D Q .	C D T	Q T L R	
. N V	F W R	I G T N	V T L	R R .	
GAAAGAAAG	ATTTATATTC	TTCTGCAGTA	CCGCTTGGCC	ACAATATCCT	100
K E T	I Y I L	L Q Y	R L A	T I S S	
K K R	F I F	F C S T	A W P	Q Y P	
E R N D	L Y S	S A V	P P G H	N I L	
CTTCAAGGA	GAGAAACCTG	GCTTCTCAG	GGAAGTATAA	ATTATAACAT	150
S R E	R N L	A S .	G K Y K	L . H	
L Q G R	E T W	L P E	G S I N	Y N I	
F K G	E K P G	F L R	E V .	I I T S	
CATCTTACAG	CTAGACCTCT	TCTGTAGAAA	GGAGGGCAAA	TGGAGTGAAG	200
H L T A	R P L .	L . K	G G Q M	E . S	
I L Q .	L D L F	C R K	E G K	W S E V	
S Y S .	T S	S V E R	R A N	G V K	
TGCCATATGT	GCAAACCTTC	TTTTCATTAA	GAGACAATC	ACAATTATGT	250
A I C	A N F L	F I K	R Q L	T I M .	
P Y V	Q T F	F S L R	D N S	Q L C	
C H M C	K L S	F H .	E T T H	N Y V	
AAAAAGTGTG	GTTTATGCCC	TACAGGAAGC	CCTCAGAGTC	CACTTCCCTA	300
K V W	F M P	Y R K P	S E S	T S L	
K K C G	L C P	T G S	P Q S P	P P Y	
K S V	V Y A L	Q E A	L R V	H L P T	
CCCCAGGTC	CCCTCCCCGA	CTCCTTCTC	AACTAATAAG	GACCCCCCTT	350
P Q R P	L P D	S F L N .	. G	P P F	
P S V	P S P T	P S S	T N K	D P P L	
P A S	P P R	L L P Q	L I R	T P L	
TAACCCAAAC	GGTCCAAAAG	GAGATAGACA	AAGGGGTAAA	CAATGAACCA	400
N P N	G P K G	D R Q	R G K	Q . T K	
T Q T	V Q K	E I D K	G V N	N E P	
. P K R	S K R	R . T	K G .	T M N Q	
AAGAGTGGCA	ATATTCCCCG	ATTATGCCCC	CTCCAGGCAG	TGAGAGGAGG	450
E C Q	Y S P	I M P P	P S S	E R R	
K S A N	I P R	L C P	L Q A V	R G G	
R V P	I F P D	Y A P	S K Q .	E E E	
AGAATTGGGC	CCAGCCAGAG	TGCTGTAC	TTTTTCTCTC	TCAGACTTAA	500
R I R P	S Q S	A C T	F F S L	R L K	
E F G	P A R V	P V P	F S L	S D L K	
N S A	Q P E	C L Y L	F L S	Q T .	

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Fig. 6B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
AGCAAATTAA	AATAGACCTA	GGTAAATTCT	CAGATAAACC	TGACGGCTAT	550
A N .	N R P R .	I L R .	P .	R L Y	
Q I K	I D L	G K F S	D N P	D G Y	
S K L K	. T .	V N S	Q I T L	T A I	
ATTGATGTTT	TACAAGGGTT	AGGACAATCC	TTTGATCTGA	CATGGAGAGA	600
. C F	T R V	R T I L	. S D	M E R	
I D V L	Q G L	G Q S	F D L T	W R D	
L M F	Y K G .	D N P	L I .	H G E I	
TATAATGTTA	CTACTAAATC	AGACACTAAC	CCCAAATGAG	AGAAGTGGCG	650
Y N V T	T K S	D T N	P K .	E K C R	
I M L	L L N Q	T L T	P N E	R S A A	
. C Y Y .	I R H .	P	Q M R	E V P	
CTGTAAC TGC	AGCCCGAGAG	TTTGGCGATC	TTTGGTATCT	CAGTCAGGCC	700
C N C	S P R V	W R S	L V S	Q S G Q	
V T A	A R E	F G D L	W Y L	S Q A	
L .	L Q	P E S	L A I	F G I S V R P	
AACAATAGGA	TGACAACAGA	GGAAAGAACA	ACTCCACAG	GCCAGCAGGC	750
Q .	D D N R	G K N N	S H R	P A G	
N N R M	T T E	E R T	T P T G	Q Q A	
T I G .	Q Q R	K E Q	L P Q	A S R Q	
AGTCCCACT	GTAGACCTC	ATTGGGACAC	AGAATCAGAA	CATGGAGATT	800
S S Q C	R P S	L G H	R I R T	W R L	
V P S	V D P H	W D T	E S E	H G D W	
F P V .	T L	I G T Q	N Q N	M E I	
GGTGGCACA	ACATTTCCTA	ACTTGGGTGC	TAGAAGGACT	GAGGAAACT	850
V P Q	T F A N	L R A	R R T	E E N .	
C H K	H L L	T C V L	E G L	R K T	
G A T N	I C .	L A C .	K D .	G K L	
AGGAGAGGC	CTATGAATTA	CTCAATGATG	TCCACTATAA	CACAGGAAA	900
E E A	Y E L	L N D V	H Y N	T G K	
R K K P	M N Y	S M M	S T I T	Q G K	
G R S	L .	I T Q .	C P L .	H R E R	
GGAAGAAAT	CCTACTGCTT	TTCTGGACAG	ACTAAGGGAG	GCATTGAGGA	950
G R K S	Y C F	S G Q	T K G G	I E E	
E E N	L T A F	L D R	L R E	A L R K	
K K I	L L L	F W T D	. G R H .	G	
AGCATACCTC	CCTGTACCT	GACTCTATTG	AAGGCAACT	AATCTTAAAG	1000
A Y L	P V T .	L Y .	R P T	N L K G	
H T S	L S P	D S I E	G Q L	I L K	
S I P P	C H L	T L L	K A N .	S . R	

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Fig. 6C

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GATAAGTTTA	TCACTCAGTC	AGCTGCAGAC	ATTAGAAAAA	ACTTCAAAAG	1050
. V Y H S V	S C R H	. K K	L Q K		
D K F I	T Q S A A D	I R K N	F K S		
I S L S	L S Q L Q T	L E K	T S K V		
TCTGCCCTTAG	GCCCCGAGCA	GAACCTAGAA	ACCCATATTA	ACTTGGCATC	1100
S A L G	P E Q N L E	T L F N	L A S		
L P	A R S R T	K P Y L	T W H P		
C L R	P G A E L R N	P I	L G I		
CTCAGTTTTT	TATAATAGAG	ATCAGGAGGA	GCAGGGGAAA	CGGGACAAAC	1150
S V F Y	N R D Q E E	Q A K	R D K R		
Q F F I	I E I R R S	R R N	G T N		
L S F L	. R S G G	A G E T	G Q T		
GGGATAAAAA	AAAAAGGGGG	GGTCCACTAC	TTTAGTCATG	GCCCTCAGGC	1200
D K K K	R G G P L L	. S W	P S G		
G I K K	K G G V H Y	F S H G	P Q A		
G . K	K K G G S T T	L V M	A L R Q		
AAGCAGACTT	TGGAGGCTCT	GCAAAAGGGA	AAAGCTGGGC	AAATCAAATG	1250
K Q T L	E A L Q K G	K A G Q	I K C		
S R L	W R L C K R E	K L G	K S N A		
A D F	G G S A K G K	S W A	N Q M		
OCTAATAGGG	CTGGCTTCCA	GTGGGGTCTA	CAAGGACACT	TTAAAAAGA	1300
L I G	L A S S A V Y	K D T	L K K I		
. . G	W L P V R S T	R T L	. K R		
P N R A	G F Q C G L	Q G H F	K K D		
TTATCCAAGT	AGAATAAGC	CGCCCCCTTG	TCCATGCCCC	TTAAGTCAAG	1350
I Q V	E I S R P L V	H A P	Y V K		
L S K	. K . A A P L	S M P L	T S R		
Y P S	R N K P P P C	P C P	L R Q G		
GGATCACTG	GAAGGCCCCAC	TGCCCCAGGG	GATGAAGATA	CTCTGAGTCA	1400
G I T G	R P T A P G	D E D T	L S Q		
E S L	E G P L P Q G	M K I	L . V R		
N H W	K A H C P R G	. R Y	S E S		
GAAGCATTA	ACCAGATGAT	CCAGCAGCAG	GACTGAGGGT	GGGGGGGGGG	1450
K P L	T R . S S S R	T E G	A R G E		
S H	. P D D P A A G	L R V	P G A		
E A I N	Q M I Q Q Q	D . G C	P G R		
AGGGCCAGCC	CATGCCATCA	CCCTCACAGA	GGGGGGGGTA	TGTTTGACCA	1500
R Q P	M P S P S Q S	P G Y	V . P		
S A S P	C H H P H R	A P G M	F D H		
A P A	H A I T L T E	P R V	C L T I		

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Fig. 6D

10	20	30	40	50
1234567890	1234567890	1234567890	1234567890	1234567890
TTGAGAGCCA A				1511
L	R	A		
	E	P		
E	S	Q		

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Fig. 7A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATGGGCAGCA	GCCATCATCA	TCATCATCAC	AGCAGCGGCC	TGGTGGCGCG	50
M G S S	H H H	H H H	S S G L	V P R	
CGGCAGCCAT	ATGGCTAGCA	TGACTGGTGG	ACAGCAAATG	GGTCGGATCC	100
G S H	M A S M	T G G	Q Q M	G R I L	
TAGAACGTAT	TCTGGAGAAT	TGGGACCAAT	GTGACACTCA	GACGCTAAGA	150
E R I	L E N	W D Q C	D T Q	T L R	
AAGAAACGAT	TTATATTCTT	CTGCAGTACC	GCTTGGCCAC	AATATCCTCT	200
K K R F	I F F	C S T	A W P Q	Y P L	
TCAAGGGAGA	GAAACCTGGC	TTCCIGAGGG	AAGTATAAAT	TATAACATCA	250
Q G R	E T W L	P E G	S I N	Y N I I	
TCTTACAGCT	AGACCTCTTC	TGTAGAAAGG	AGGGCAAATG	GAGTGAAGTG	300
L Q L	D L F	C R K E	G K W	S E V	
CCATATGTGC	AAACTTTCTT	TTCATTAAGA	GACAACTCAC	AATTATGTAA	350
P Y V Q	T F F	S L R	D N S Q	L C K	
AAAGTGTGGT	TTATGGCCCTA	CAGGAAGCCC	TCAGAGTCCA	CCTCCCTACC	400
K C G	L C P T	G S P	Q S P	P P Y P	
CCAGGTCCC	CTCCCGACT	CCTTCCTCAA	CTAATAAGGA	CCCCCTTTA	450
S V P	S P T	P S S T	N K D	P P L	
ACCCAAACGG	TCCAAAAGGA	GATAGACAAA	GGGTAAACA	ATGAACCAAA	500
T Q T V	Q K E	I D K	G V N N	E P K	
GAGTGCAT	ATTCCCCGAT	TATGCCCCCT	CCAAGCAGTG	AGAGGAGGAG	550
S A N	I P R L	C P L	Q A V	R G G E	
AATTGGGCC	AGCCAGAGTG	CCTGTACCTT	TTTCTCTCTC	AGACTTAAAG	600
F G P	A R V	P V P F	S L S	D L K	
CAAATTAAAA	TAGACCTAGG	TAAATTCTCA	GATAACCTTG	AAGGCTATAT	650
Q I K I	D L G	K F S	D N P D	G Y I	
TGATGTTTTA	CAAGGGTTAG	GACAATCCTT	TGATCTGACA	TGGAGAGATA	700
D V L	Q G L G	Q S F	D L T	W R D I	
TAATGTTACT	ACTAAATCAG	ACACTAACC	CAAATGAGAG	AAGTGGCGCT	750
M L L	L N Q	T L T P	N E R	S A A	

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Fig. 7B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GTAACTGCAG	COCGAGAGTT	TGGCGATCCT	TGGTATCTCA	GTCAGGOCOA	800
V T A A	R E F	G D L	W Y L S	Q A N	
CAATAGGATG	ACAACAGAGG	AAAGAACAAC	TCCCACAGGC	CAGCAGGCAG	850
N R M	T T E E	R T T	P T G	Q Q A V	
TTCCCAGTGT	AGACCCTCAT	TGGGACACAG	AATCAGAACA	TGGAGATTGG	900
P S V	D P H	W D T E	S E H	G D W	
TGCCACAAAC	ATTGCTAAC	TTCGGTGCTA	GAAAGACTGA	GGAAAACTAG	950
C H K H	L L T	C V L	E G L R	K T R	
GAAGAAGCCT	ATGAATTACT	CAATGATGTC	CACTATAACA	CAGGAAAGG	1000
K K P	M N Y S	M M S	T I T	Q G K E	
AAGAAAATCT	TACTGCTTTT	CTGGACAGAC	TAAGGGAGGC	ATTGAGGAAG	1050
E N L	T A F	L D R L	R E A	L R K	
CATACTOOC	TGTCACCTGA	CTCTATTGAA	GGCCAACTAA	TCTTAAAGGA	1100
H T S L	S P D	S I E	G Q L I	L K D	
TAAGTTTATC	ACTCAGTCAG	CTGCAGACAT	TAGAAAAAAC	TTCAAAAGTC	1150
K F I	T Q S A	A D I	R K N	F K S L	
TGCTTAAGCT	TGCGGCGGCA	CTCGAGCAAC	ACCACCACCA	CCACTGAGAT	1200
P K L	A A A	L E H H	H H H	H . D	
COGGCTGCTA	ACAAAGCCCG	AAAGGAAGCT	GAGTTGGCTN	GTGGCNA	1247
P A A N	K A R	K E A	E L A X	G	

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Fig. 8A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATGGCTAGCA	TGACTGGTGG	ACAGCAAATG	GGTCGGATCC	TAGAAAGTAT	50
M A S M	T G G	Q Q M	G R I L	E R I	
TCTGGAGAAT	TGGGACCAAT	GTGACACTCA	GACGCTAAGA	AAGAAAGGAT	100
L E N	W D Q C	D T Q	T L R	K K R F	
TTATATTCTT	CTGCAGTACC	GCCTGGCCAC	AATATCCTCT	TCAAGGGAGA	150
I F F	C S T	A W P Q	Y P L	Q G R	
GAAACCTGGC	TTCCTGAGGG	AAGTATAAAT	TATAACATCA	TCTTACAGCT	200
E T W L	P E G	S I N	Y N I I	L Q L	
AGACCTCTTC	TGTAGAAAGG	AGGCCAAATG	GAGTGAAGTG	CCATATGTGC	250
D L F	C R K E	G K W	S E V	P Y V Q	
AAACTTTCTT	TTCATTAAGA	GACAACTCAC	AATTATGTAA	AAAGTGTGGT	300
T F F	S L R	D N S Q	L C K	K C G	
TTATGCCCTA	CAGGAAGCCC	TCAGAGTCCA	CCTCCCTACC	CCAGCGTCCC	350
L C P T	G S P	Q S P	P P Y P	S V P	
CTCCCCGACT	CCTTCCTCAA	CTAATAAGGA	CCCCCCTTTA	ACCCAAACGG	400
S P T	P S S T	N K D	P P L	T Q T V	
TCAAAAGGA	GATAGACAAA	GGGTAAACA	ATGAACCAA	GAGTGCCAAT	450
Q K E	I D K	G V N N	E P K	S A N	
ATTCCCCGAT	TATGCCCCCT	CCAAGCAGTG	AGAGGAGGAG	AATTCCGCCC	500
I P R L	C P L	Q A V	R G G E	F G P	
AGCCAGAGTG	CCTGTACCTT	TTTCTCTCTC	AGACTTAAAG	CAAATTAAAA	550
A R V	P V P F	S L S	D L K	Q I K I	
TAGACCTAGG	TAAATTCTCA	GATAAACCCTG	ACGGCTATAT	TGATGTTTTA	600
D L G	K F S	D N P D	G Y I	D V L	
CAAGGGTTAG	GACAATCCTT	TGATCTGACA	TGGAGAGATA	TAATGTTACT	650
Q G L G	Q S F	D L T	W R D I	M L L	
ACTAAATCAG	ACACTAATCC	CAATGAGAG	AAGTGGCGCT	GTAAGTCAG	700
L N Q	T L T P	N E R	S A A	V T A A	
CCCGAGAGTT	TGGCGATCTT	TGGTATCTCA	GTCAGGCCAA	CAATAGGATG	750
R E F	G D L	W Y L S	Q A N	N R M	

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Fig. 8B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ACAACAGAGG	AAAGAACAAC	TCCACAGGC	CAGCAGGCAG	TCCAGTGT	800
T T E E	R T T	P T G	Q Q A V	P S V	
AGACCCAT	TGGACACAG	AATCAGAACA	TGGAGATTGG	TGCCACAAAC	850
D P H	W D T E	S E H	G D W	C H K H	
ATTGCTAAC	TTCGTGCTA	GAAGGACTGA	GGAAACTAG	GAAGAAGCCT	900
L L T	C V L	E G L R	K T R	K K P	
ATGAATTACT	CAATGATGTC	CACTATAACA	CAGGGAAAGG	AAGAAAATCT	950
M N Y S	M M S	T I T	Q G K E	E N L	
TACTGCTTTT	CTGGACAGAC	TAAGGGAGGC	ATTGAGGAAG	CATACCTOCC	1000
T A F	L D R L	R E A	L R K	H T S L	
TGTCACCTGA	CTCTATTGAA	GGCCAACTAA	TCTTAAAGGA	TAAGTTTATC	1050
S P D	S I E	G Q L I	L K D	K F I	
ACTCAGTCAG	CTGCAGACAT	TAGAAAAAAC	TTCAAAAGTC	TGCTAAGCT	1100
T Q S A	A D I	R K N	F K S L	P K L	
TGCGGCGCA	CTCGAGCACC	ACCAACCACCA	CCACTGAGAT	CCGGCTGCTA	1150
A A A	L E H H	H H H	H . D	P A A N	
ACAAAGCCCG	AAAGGAAGCT	GAGTTGGCTG	GTGGCA		1186
K A R	K E A	E L A G	G		

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Fig. 9A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TGTCGCTGT	GCTCCGATC	CAGCACAGGC	GCCCATTGCC	TCTCCCAATT	50
C P L C S . S	S T G A H C L	S Q L			
V R C A P D P	A Q A P I A	S P N W			
S A V L L I	Q H R R	P L P L P I			
GGGCTAAAGG	CTTGCCATTG	TTCTGACACA	GCTAAGTGCC	TGGGTTTCATC	100
G . R L A I V	P A Q L S A	W V H P			
A K G L P L	F L H S . V	P G F I			
G L K A C H C	S C T A K C L	G S S			
CTAATCGAGC	TGAACACTAG	TCCTGGGTT	CCACGGTTCT	CTTCATGAC	150
N R A E H .	S L G S T V L	F H D			
L I E L N T S	H W V P R F S	S M T			
. S S . T L V	T G F H G S	L P . P			
CCATGGCTTC	TAATAGAGCT	ATAACACTCA	CTGCATGGTC	CAAGATTCCA	200
P W L L I E L .	H S L H G P	R F H			
H G F . . S Y	N T H C M V	Q D S I			
M A S N R A	I T L T A W S	K I P			
TTCTTGGA	TCGTGAGAC	CAAGAACCC	AGGTCAGAGA	ACACAAGGCT	250
S L E S V R P	R T P G Q R	T Q G L			
P W N P . D	Q E P Q V R E	H K A			
F L G I R E T	K N P R S E N	T R L			
TGCCAOCATG	TTGGAAGCAG	CCCACCACCA	TTTIGGAAGC	AGCCCGCCAC	300
P P C W K Q	P T T I L E A	A R H			
C H H V G S S	P P P F W K Q	P A T			
A T M L E A A	H H H F G S	S P P L			
TATCTTGGA	GCTCTGGGAG	CAAGGACCC	AGGTAACAAT	TTGGTGACCA	350
Y L G S S G S	K D P R . Q	F G D H			
I L G A L G A	R T P G N N	L V T T			
S W E L W E	Q G P Q V T I	W . P			
CGAAGGGACC	TGAATCCGCA	ACCATGAAGG	GATCTCCAAA	GCAATTGGAA	400
E G T . I R N	H E G I S K	A I G N			
K G P E S A	T M K G S P K	Q L E			
R R D L N P Q	P . R D L Q	S N W K			

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Fig. 9B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATGTTCTCTCC	CAAGGCAAAA	ATGCCCCCTAA	GATGTATTCT	GGAGAATTGG	450
V P P	K A K	M P L R	C I L	E N W	
M F L P	R Q K	C P .	D V F W	R I G	
C S S	Q G K N	A P K	M Y S	G E L G	
GACCAATTIG	ACCTCAGAC	AGTAAGAAAA	AAATGACTTA	TATTCTTCIG	500
D Q F D	P Q T	V R K	K . L I	F F C	
T N L	T L R Q	. E K	N D L	Y S S A	
P I .	P S D	S K K K	M T Y	I L L	
CAGTACCGCC	CTGGCCACGA	TATCTCTCTC	AAGGGGGAGA	AACCTGGCCT	550
S T A	L A T I	S S S	R G R	N L A S	
V P P	W P R	Y P L Q	G G E	T W P	
Q Y R P	G H D	I L F	K G E K	P G L	
CCTGAGGGAA	GTATAAATTA	TAACACCATC	TTACAGCTAG	ACCTGTTTIG	600
. G K	Y K L	. H H L	T A R	P V L	
P E G S	I N Y	N T I	L Q L D	L F C	
L R E V	. I I	T P S	Y S .	T C F V	
TAGAAAAGGA	GGCAAATGGA	GIGAAGTCCC	ATATTTACAA	ACTTTCITTT	650
. K R R	Q M E	. S A	I F T N	F L F	
R K G	G K W S	E V P	Y L Q	T F F S	
E K E	A N G	V K C H	I Y K	L S F	
CATTAAAAGA	CAACTCGCAA	TTATGTAAAC	AGTGTGATTT	GIGTTCCTAC	700
I K R	Q L A I	M L T V	. F	V F L H	
L K D	N S Q	L C .	Q C D L	C S Y	
H . K T	T R N	Y V N	S V I C	V P T	
ACGGAAGCCC	TCAGATTCTA	CTCCCCACCC	CCGGCATCTC	CCCTGAATCC	750
G S P	Q I L	L P T P	G I S	P E S	
T E A L	R F Y	S P P	P A S P	L N P	
R K P	S D S T	P H P	R H L	P . I P	
CTCCCCAACT	TATT				764
L P N L					
S P T Y					
P Q L I					

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Fig. 10A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TGTCGGCTGT	GCTCCTGATC	CAGCACAGGC	GOCCATTGCC	TCTCCCAATT	50
C P L C S . S	S T G A H C L	S Q L			
V R C A P D P	A Q A P I A	S P N W			
S A V L L I	Q H R R	P L P L P I			
GGGCTAAAGG	CTTGCCATTG	TTCCTGCACA	GCTAAGTGCC	TGGGTTTCATC	100
G . R L A I V	P A Q L S A	W V H P			
A K G L P L	F L H S .	V P G F I			
G L K A C H C	S C T A K C L	G S S			
CTAATCGAGC	TGAACACTAG	TCACTGGGTT	CCACGGTTCT	CTTCCATGAC	150
N R A E H .	S L G S T V L	F H D			
L I E L N T S	H W V P R F S	S M T			
. S S .	T L V T G F	H G S L P .	P		
CCATGGCTTC	TAATAGAGCT	ATAACACTCA	CTGCATGGTC	CAAGATTCCA	200
P W L L I E L .	H S L H G P	R F H			
H G F . .	S Y N T H	C M V Q D S I			
M A S N R A	I T L T A W S	K I P			
TTCCTTGGAA	TCCGTGAGAC	CAAGAACCCC	AGGTCAGAGA	ACACAAGGCT	250
S L E S V R P	R T P G Q R	T Q G L			
P W N P .	D Q E P Q V R E	H K A			
F L G I R E T	K N P R S E N	T R L			
TGCCACCATG	TTGGAAGCAG	CCCACCACCA	TTTTTGGGAAGC	GGCCCGCCAC	300
P P C W K Q	P T T I L E A	A R H			
C H H V G S S	P P P F W K R	P A T			
A T M L E A A	H H H F G S	G P P L			
TATCTTGGGA	GCTCTGGGAG	CAAGGACCCC	CAGGTAACAA	TTTGGTGACC	350
Y L G S S G S	K D P Q V T I	W . P			
I L G A L G A	R T P R .	Q F G D H			
S W E L W E	Q G P P G N N	L V T			
ACGAAGGGAC	CTGAATCCGC	AACCATGAAG	GGATCTCCAA	AGCAATTGGA	400
R R D L N P Q	P . R D L Q	S N W K			
E G T .	I R N H E G	I S K A I G			
T K G P E S A	T M K G S P K	Q L E			

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Fig. 10B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
AATGTTCCCTC	CCAAGGCAAA	AATGCCCCCTA	AGATGTATTTC	TGGAGAATTG	450
C S S	Q G K	N A P K	M Y S	G E L	
N V P P	K A K	M P L	R C I L	E N W	
M F L	P R Q K	C P .	D V F	W R I G	
GGACCAATCT	GACCCCTCAGA	CAGTAAGAAA	AAAAATGACT	TATATTCTTC	500
G P I .	P S D	S K K	K N D L	Y S S	
D Q S	D P Q T	V R K	K M T	Y I L L	
T N L	T L R Q	. E K	K . L	I F F	
TGCAGTACCG	CCTGGCCACG	GATATCCTCT	TCAAGGGGGA	GAAACCTGGC	550
A V P	P G H G	Y P L	Q G G	E T W P	
Q Y R	L A T	D I L F	K G E	K P G	
C S T A	W P R	I S S	S R G R	N L A	
CTCCTGAGGG	AAGTATAAAT	TATAACACCA	TCTTACAGCT	AGACCTGTTT	600
P E G	S I N	Y N T I	L Q L	D L F	
L L R E	V . I	I T P	S Y S .	T C F	
S . G	K Y K L	. H H	L T A	R P V L	
TGTAGAAAAG	GAGGCAAATG	GAGTGAAGIG	CCATATTTAC	AAACTTTCTT	650
C R K G	G K W	S E V	P Y L Q	T F F	
V E K	E A N G	V K C	H I Y	K L S F	
. K R	R Q M E .	S A	I F T	N F L	
TTCATTAAAA	GACAACCTGC	AATTATGTAA	ACAGTGTGAT	TTGTGTCTTA	700
S L K	D N S Q	L C K	Q C D	L C P T	
H . K	T T R	N Y V N	S V I	C V L	
F I K R	Q L A	I M .	T V .	F V S Y	
CAGGAAGCCC	TCAGATCTAC	CTCCCTACCC	CGGCATCTCC	CTGACTCCTT	750
G S P	Q I Y	L P T P	A S P .	L L	
Q E A L	R S T	S L P	R H L P	D S F	
R K P	S D L P	P Y P	G I S	L T P S	
CCCCAACTAA	TAAGGACCCA	CTTCAGCCCA	AACAGTCCAA	AAGGACATAG	800
P Q L I	R T H	F S P	N S P K	G H	
P N . .	G P T	S A Q	T V Q	K D I	
P T N	K D P	L Q P K	Q S K	R T .	

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Fig. 11A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GGCATTGATA	GCACCCATCA	GATGGCCAAA	TCATTATTTA	CTGGACCAGG	50
G I D S	T H Q	M A K	S L F T	G P G	
A L I	A P I R	W P N	H Y L	L D Q A	
H . .	H P S	D G Q I	I I Y	W T R	
CCTTTTCAAA	ACTATCAAGC	AGATAGGGCC	CGTGAAGCAT	GCCAAAGAAA	100
L F K	T I K Q	I G P	V K H	A K E I	
F S K	L S S R	. G P	. S M	P K K	
P F Q N	Y Q A	D R A	R E A C	Q R N	
TAATCCCCCTG	CCTTATCGCC	ATGTTCTTTC	AGGAGAACAA	AGAACAGGCC	150
I P C	L I A	M F L Q	E N K	E Q A	
. S P A	L S P	C S F	R R T K	N R P	
N P L	P Y R H	V P S	G E Q	R T G H	
ATTACCCAGG	GGAAGACTGG	CAACTAGATT	TTACCCACAT	GGCCAAATGT	200
I T Q G	K T G N	. I	L P T W	P N V	
L P R	G R L A	T R F	Y P H	G Q M S	
Y P G	E D W	Q L D F	T H M	A K C	
CAGGGATTTC	AGCATCTACT	AGTCTGGGCA	GATACTTTCA	CTGGTTGGGT	250
R D F	S I Y .	S G Q	I L S	L V G W	
G I S	A S T	S L G R	Y F H	W L G	
Q G F Q	H L L	V W A	D T F T	G W V	
GGAGTCTTCT	CCTTGTAGGA	CAGAAAAGAC	CCAAGAGGTA	ATAAAGGCAC	300
S L L	L V G	Q K R P	K R .	. R H	
G V F S	L .	D R K D	P R G N	K G T	
E S S	P C R T	E K T	Q E V	I K A L	
TAATGAAATA	ATTCCCAGAT	TGGACTTCC	CCCAGGATTA	CAGGGTGACA	350
. . N N	S Q I	W T S	P R I T	G . Q	
N E I	I P R F	G L P	P G L	Q G D N	
M K .	F P D	L D F P	Q D Y	R V T	

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Fig. 11B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATGGCCCCGC	TTTCAAGGCT	GCAGTAACCC	AGGGAGTATC	CCAGGTGTTA	400
W P R F Q G C	S N P G S I	P G V R			
G P A F K A	A V T Q G V S	Q V L			
M A P L S R L	Q . P R E Y P	R C .			
GGCATAACAAT	ATCACTTACA	CTGTGCCTGG	AGGCCACAAT	CCTCCAGAAA	450
H T I S L T L C L E	A T I L Q K				
G I Q Y H L H C A W	R P Q S S R K				
A Y N I T Y T V P G	G H N P P E K				
AGTCAAGAAA	ATGAATGAAA	CACTCAAAGA	TCTAAAAAAG	CTAACCCAAG	500
S Q E N E . N T Q R	S K K A N P R				
V K K M N E T L K D	L K K L T Q E				
S R K . M K H S K I	. K S . P K				
AAACCCACAT	TGCATGACCT	GTTCTGTGTC	CTATAACCTT	ACTAAGAATC	550
N P H C M T C S V A	Y N L T K N P				
T H I A . P V L L P	I T L L R I				
K P T L H D L F C C	L . P Y . E S				
CATAACTATC	CCCCAAAAAG	CAGGACTTAG	CCCATACGAG	ATGCTATATG	600
. L S P K K Q D L A	H T R C Y M				
H N Y P P K S R T .	P I R D A I W				
I T I P Q K A G L S	P Y E M L Y G				
GATGGCCCTTT	CCTAACCAAT	GACCTTGIGC	TTGACTGAGA	AATGGCCAAC	650
D G L S . P M T L C	L T E K W P T				
M A F P N Q . P C A	. L R N G Q L				
W P F L T N D L V L	D . E M A N				
TTAGTTGCAG	ACATCACCTC	CTTAGCCAAA	TATCAACAAG	TTCTTAAAAC	700
. L Q T S P P . P N	I N K F L K H				
S C R H H L L S Q I	S T S S . N				
L V A D I T S L A K	Y Q Q V L K T				

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Fig. 11C

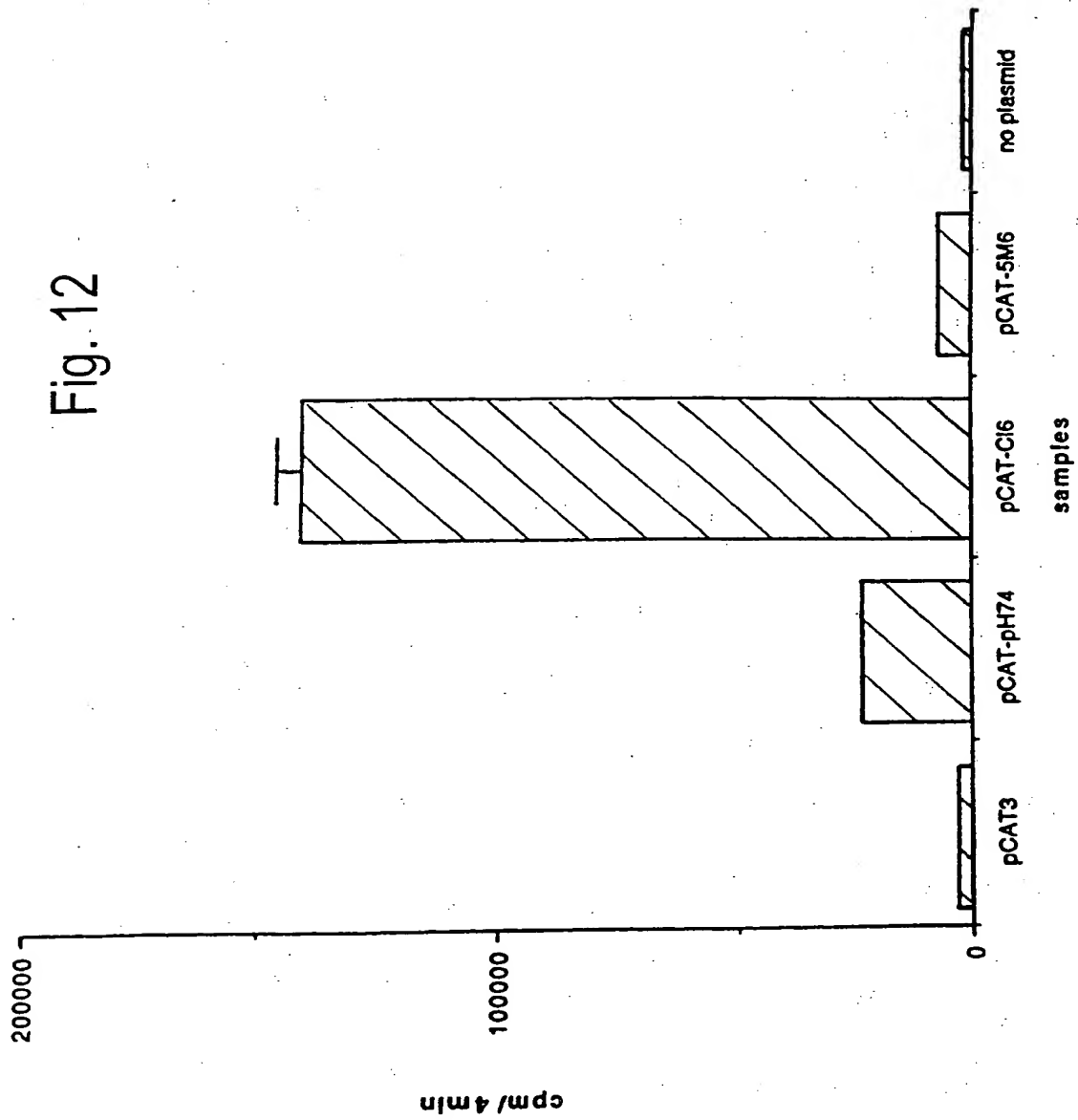
10	20	30	40	50
1234567890	1234567890	1234567890	1234567890	1234567890
ATCACAGGGA	ACCTGTCCCC	GAGAGGAGGG	AAAGGAAC TA	TTCCACCC TG
H R E	P V P	E R R E	R N Y	S T L
I T G N	L S P	R G G	K G T I	P P W
S Q G	T C P R	E E G	K E L	F H P G
GIGACATG				
V T				
. H				
D M				

750

758

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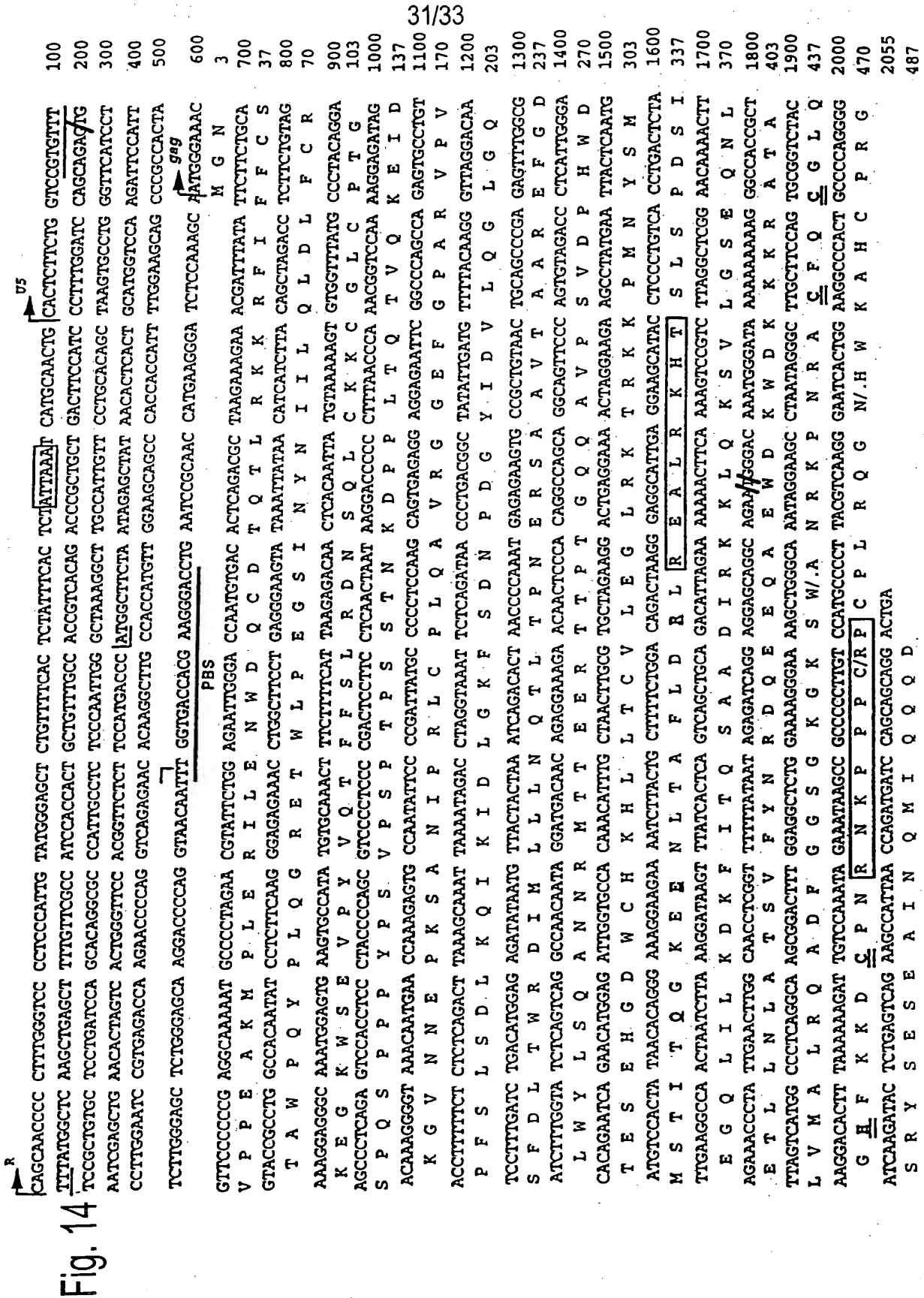
Fig. 12



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Fig. 13

100	ATGGCCCTG CTTATCATAC TTTTCTCTTT AGTTCTCTT TACGCCCTT GCCTCTCACT GCACCCCTC CATCTCTCTG TACACCACT AGCTCCCTT	100
34	M A L P Y H T F L P T V L L P P F A L T A P P P C C C T T T S S S P Y	34
200	ACCAAGATT TCTATGAGA AGCCGCTTC CTGCAATAT TCAATGCCA TCAATAGGA GTTATCTAA GGAATCTC ACCTTCACTC CCACACCCA	200
67	O E F L . R T R L P G N I D A P S Y R S L S K O N B T T P T A H T H	67
300	TATCCCTG ACCTCTATC ACTCTCCAC TCTTGCATG CATGCAATA CTCTATTTG GACGGGAA ATGATTAATC CTACTTCTC TGGAGCACTT	300
100	M P R N C Y N S A T L C M H A N T H Y W T O K H I N P S C P G O L	100
400	GACCACTG TCTCTGAC TTACTTCACT CATACCAATA TCTCTATGG GGTGCAAT CAGCTCAG CACGAGAA ACAATGAA GAACTATCT	400
134	G A T V C M T Y P T H T S M S D G G G I Q G O A R E K Q V K E A I S	134
500	CCCACTGAC CCGGACAT AGCACCTTA GGCCTACAA AGCACTAGT CTCTCAAAC TACATGAAC CTTCTGACC CATCTCTCC TGGTGAAGCT	500
167	O L T R G H S T P S P Y K G L V L S K L H E T L R T H T R L V S L	167
600	ATTATTAAC ACCTCTACT GGTCTCAAG GGTCTCAGC CAATACTTA CTAACTTGT GATCTCTC CCCTCTACT TCAAGCCATA CATTTCAATC	600
200	F N T T L T R L N E V S A Q N P T N C W H C L P L H F R P Y I S I	200
700	CCCTCTG ACATGGA CAATCTGAC ACAGAAATA AACCTCTC GTTTTATG GAACTCTT TTTCTACT GGAATGAC CATACTGAA	700
234	P V P E Q W N N P S T E I N T T S V L V O P L V S N L E I T H T S N	234
800	ACCTGCTG TGTAAATTT AGCAATCTA TACATCAAC CAGCTCCAA TGTATGAGT GGTATACAC TCCACAGCA ATAGTCTCC TACCTCAGG	800
267	L T C V K P S N T I D T T S S O C I R W V T P P T R I V C L P S G	267
900	AATATTTT CTCTCTG CTTCACTTA TCAATTTTG AATGCTTT CAGATCTAT GTCTCTCT TCTCTCTG TGCCTCTAT GACATCTAC	900
300	I F P V C G T S A Y H C L N G S S E S H C F L S F L V P P M T I Y	300
1000	ACGACAG ATTATGAA TCAATGCTA CCAAGCCCT ACACAAAG AGTACCAAT CTCTCTTG TTATCAGAC AGGATCTA GCGACACTAG	1000
334	T E Q D L Y N H V V P K P H N K R V P I L P F V I R A O V L G R L G	334
1100	GTACTGAT TGGCATATC ACACCTTA CTCAGTTCTA CTCAACTA TCTCAAGAA TAAATGGA CATGGAAG GTACTGACT CCTGCTGAC	1100
367	T G I G S I T T S T Q F Y Y K L S Q E I N G D H E Q V T D S L V T	367
1200	CTTCAAGAT CACTTAAT CCTATGAC AGTATGCTT CAAATGAA GAGTTTAA CTCTCAACC GCAAAAGAG GGGAACTG TTTATTTTAA	1200
400	L Q D Q L N S L A A V V L Q N R R A L D L L T A K R G G T C L F L	400
1300	GGAGAAG CCGTTTATA TGTAAATTA TCAATATTA AGTTAAGAA ATTGAGATC GAATCAATG TAGAGCAAG GAGCTTCAAA	1300
434	G E R C Y Y V N Q S R I V T E K V K E I R D R I Q C R A E E L Q N	434
1400	ACACCAAG CTGGGCTC CTAGCCAT GATGCTCTG GGTCTCCCT TTCTTAGAC CTCTAGGAC TCTATATTTG TTACTCTCT TTGACCTG	1400
467	T E R W G L L S Q W M P W V L P F L G P L A A L I L L L L P G P C	467
1500	TATTTTAA CTCTCTGTA AGTTGCTC TTCCAGATT GAGCTTAA AGTACAGAT GTCTTAAAC ATGCAACCC AGATGAGTC CATGACTAAG	1500
500	I F N L L V K F V S S R I E A V K L Q H V L Q M E P Q M E S M T K	500
1600	ATCCACCTG GACCCCTGA CCGGCTCT AGCCATGCT CCGATGTTA TGAATTTAA GGCACCTCT CCGAGCAAT CTCACCTGA CACCCCTAC	1600
534	I H R G P L D R P A S P C S D V N D I E G T P P E E I S T A Q P L L	534
1700	TATCCCAA TTCAAGGGA AGCACTTAA GCGTCAAT GCAACCTC CCAACGAC TTGGTTTTC CTCTTAGAG GGGGACTGA GAGACGAC	1700
542	C P N S A G S S	542
1800	TAGTGCATT TCTAGGCA ACAGAAATC CTTAGCTTA GCTGGGAG TGAATCATC CACTCTTAA CATGGGCTT GCACTTAC TCACACCGA	1800
1900	CCATTCAG AGCTACTTA ATGTCTATT AGGCAAAAT AGAGGTATA GAATAGCA ATCTCTATT GCTTAGAC ACAGCGGAG GCACAGCAT	1900
2000	CGGATATA ACCAGCAT TCAAGCCGC ACAGCAAC CCGTTGGGT CCGCTCCCT TGTATGGGC CTCTGTTTC ACTCTATTTC ACTCTATTAA	2000
2030	ACTTGCAC TGAAMAAA AAAAAAAAAA Cap site Poly A signal	2030



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Fig. 15

GACCCGCTAG TATGGGGTAA TCCCTCCCGG GAAACCAAGC CCCAGTACTC AGAAGAAGAA ATAGATGGG GAACTCAGC AGGACATGCT TTCTCCCT
 100 G P V V W G N P L R E T K P Q Y S E E E I E W G T S R G H G P L P S 34
 CAGGATGGCT AGCCACTGAA GAAGGAAGAA TACTTTTGT GGCAGCTAAC CATGGAAAT TACTTAAAC CCTTCAGCA ACCTTCCACT TAGGCATTGA
 200 G W L A T E E G K I L L L A A N Q W K L L K T L Q Q T P L G I D 67
 TAGCACCAT CAGATAGCCA ATCATTAAT TACTGGACCA GGCCTTTCA AACTATCAA GCAGATAGTC AGGCTCTGT AGGTGTGCA AGAATATAT
 300 S T Q I A K S L P T G P G L P K T I K Q I V R A Q E V Q R N N 100
 CCCCCTGCTT ATGCCAAGC TCCTTCAGGA GAACAAGAA CAGGCAATTA CCAAGAGAA GACTGGCAAC TAGATTTTAT CCACATGCCA AATCAGAG
 400 P L P Y R Q A P S G E Q R T G N Y P R E D W Q L D P I H M P K S Q G 134
 GATTCAGTG TCTACTAGTC TGGGTAGATA CTTTCACTGG TTGGGCAGAG GCTTCCCT GTAGGACAGA AAGTTCCA GAGGTAAATA AGGCATAGT
 500 F Q C L L V W V D T F T G W A E A P P C R T E K P Q E V I K A L V 167
 TCATGAAGTA ATTCCAGAT TGGACTTC CTGAGGCTTA CAGAGTGACA ATGCTCTGC TTCAAGGCC ACAGTAACCC AGGAGTATC CCAGGCGTTA
 600 H E V I P R P G L P G L Q S D N G P A F K A T V T Q G V S Q A L 200
 GGTATAGAT ATCACTTACA CTGCACCTAG AGGCCAAT CTTCAGGAA GGTGAGAA ATGATACAC TCAAGGACA TCTAAGCAG CTAAACCCAG
 700 G I E Y H L H C T R P Q S S G K V E K M K T L K R H L N K L T Q E 234
 AACCACCT CGCATGCTCT GCTCTGTGT CTATAGCCTT ACTAAGATC CAUACTCT CCAAGAGC AGGACTTAGC CCATACAGAA TCGTGTATGG
 800 T H L A W S A L L S I A L L R I Q N S P Q K A Q L S P Y R M L Y G 267
 AGGTCTTC CTAAACCATG ACCTCTGCT TCACCAAGAG ATGCGCACT TAGTTCCAGA CATCACTCC TTAGCCAAAT ATCAACAGT TCTAAGACA
 900 R S F L T N D L L L D Q E M A N L V A D I T S L A K Y Q Q V L K T 300
 TTACAGGAG CCTGTCCCG AGAGAGGGA AAGAAATAT TCCACCTGG TGTATGCTA TTAGTCAAT CCTTCCCTC TAATTCGCCA TCCCTAGACA
 1000 L Q G A C P R E E G K E I P H P G V M V L V K S L P S M S P S L D T 334
 CATCTGGG AGGACCTTAC CCACTCATTT TATCTATCC ACTCGGTT AAGTGGCTG GAGTGGAGT TTGATACAT CACTTCGAA TCAAACTCTG
 1100 S W G G P Y P V I L S I P T A V K V A G V E S W I H K T R I K P M 367
 GATACTCCG AAGAACCCG AATATCAGG GGACACGCT AGCTATTTCT TTGAACCTT AGAGATCTG TCGTCTCT TCAAGCACA ACCGTGA
 1197 I L P K E P E N P G D N A S Y F F E P L E D L C L L P K Q Q P . 398

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Fig. 16

100 GAGAGGCA GATAGATG GCTGGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
E N S S I S W L A E V G K D S K K . R K K G E S Q R K K K R E E E T
200 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
K K N L K R E R S S K E K T V Y P I P L K A R V N F C L P S Q G I
300 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
F F L C G T S T Y I C L P T N W T G T R T L V F L S P N I N I A P
400 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
G N Q T L L V P V K A K V R Q C R A I Q L I S L F I G L G M A T A T
500 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
G T G I A G L S T S L S Y Y H T L S K N F S D S L Q E I M K S I L
600 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
T L Q S Q L D S L A A M T L Q N R R G P H L L T A E K G G L C T F
700 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
L G E E C C F Y T N O S G I V R D A T W H L Q E R A S D I R Q C L S
800 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
N S Y T N L W S W A T W L L P F L G P M A A I L L L L T F G P C I
900 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
F K L L V K F V S S R I E A I K L Q M V L Q M E P Q M S S T N N F
1000 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
Y Q G P L E R S T G T S T S L E I P L W K T L Q L Q G P F F A P I Q
1100 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
Q E V A R A V I G Q I P N S S W G V L F R G G I E E . A C W Q P
1200 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
H S P R W I S V P P Q P W C P L W P C L R S P S A C H C T V G A S
1300 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
F W A G Q G R S Q L P Q L A G R Y G G R D A G G N Q G C A W R L R A
1400 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
S H S S R W A W A R R A P H S G S E G L S T W A R Q M L C S T S S
1500 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
L G L S C L P R G A G L R E H A A C P C L S P P P R R G F L H S P
1600 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
S F P D K H H P L S T V P S P I N H P R V E E C G H T A R D W Q A V
1700 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA
P L A A L V R D P L R E A S W A P E S G G D L E N L Y V L L R D C

1719

TRANSACC ANTACCC
K Y T N Q H